Proving Of Bacopa Monniera (BRAHMI)

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Abstract: Background: Brahmi has been used by Ayurvedic medical practitioners in India for almost 3000 years. The earliest chronicled mention is in the Ayurvedic treatise, the Charaka Samhita (100 A.D.), in which Brahmi is recommended in formulations for the management of a range of mental conditions including anxiety, poor cognition and lack of concentration. According to the Charaka, Brahmi acts as an effective brain tonic that boosts one's capabilities to think and reason. The Sushruta Samhita 6 (200 A.D.) attributes the plant with efficacy in maintaining acuity of intellect and memory. The Bhavprakasha Nighantu, commonly known as the Indian Materia Medica (1500 A.D.), cites the plant as a brain tonic that is effective in maintaining vigor and intellect. Material And Methods: Method for the study has been selected as placebo controlled "Double Blind Method". Result: In drug proving out of seventeen provers sixteen manifested the symptoms consequent upon the administration of drug. There is a drop of one prover due to death of near one on the 5th day of phase-I. One prover got the typhoid fever so he was continued on abstinence of medicine because of the symptoms persisted till the completion of phase-II. Conclusion: This drug is initially used clinically in mother tincture form and not proved completely on the principles laid down in Organon of medicine. I have taken this drug to prove it in 30c & 200c potency. For the study placebo control "Double blind method" is been selected. [Gupta V Natl J Integr Res Med, 2021; 12(4):56-61]

Key Words: Homeopathic medicine , Drug Proving, Materia Medica.

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Introduction: The name Brahmi is derived from the word "**Brahma**", the mythical "creator" in the Hindu pantheon. According to Hindu concepts, the brain is the center for creative activity. Thus, any compound that improves this faculty of the brain is called Brahmi. Other Sanskrit names for this plant are "Bahuphene", Atiphena" and "Phenavati". The word "Phena" means "foaming property". When mixed with water, Bacopa plant parts produce a stable froth that is attributed to the saponins present in the plant[1-3].

Homeopathic History: Though not proved homeopathically, it is used by physicians especially in Bengal empirically. Govt. of India in its parliament has stated on 11/09/1996. That a memory enhancement pill has been made and scientifically established with Brahmi as the constituent.

Characteristics: (W. Boerieck):
Clinical: impaired memory and whooping cough.It is mostly used as tonic for absent mindedness and short of memory. It is also used for whooping cough.

Objective: To elicit the pharmacodynamic response of the drug Bacopa monniera on apparently healthy human volunteers, in non toxic doses.

Botanical Aspect: The genus Bacopa includes over 100 species of aquatic herbs distributed throughout the warmer regions of the world[2].

Characteristic Features Of Brahmi: The plant source for Brahmi is Bacopa monniera , a small herb with light purple flowers.

Natural Order: Scrophulariaceae.

Synonyms: Herpestis monniera, Barambhi, Brihmi-sak, Nirbrami.

Parts Used: The entire plant when in flower.

Cultivation: The plants grow on wet soil or in very shallow water. They are generally found in marshy places growing near reservoirs, canals and waterways. In India, the herb is found throughout the country from sea level to altitudes of 4400 ft. It can be easily cultivated in damp areas like Bengal and Assam[4-7].

Description Of The Plant: The plant is a profusely branched herb, rooting at the nodes and forming

dense mats. The leaves are fleshy. Flowering and fruiting Occur throughout the year in brief, successive durations. The plant is diagrammatically represented in fig. The salient botanical features are described below:

Stem: Prostrate, (sub) succulent, herbaceous.

Leaves: Decussate, simple, oblong, 1 x 0.4 cm, (Sub) succulent, punctate, penninerved, Margin entire, apex obtuse, (sub) sessile.

Flower(s): Axillary, solitary, bracteate (2 bracteoles), linear, pedicel to 0.5 cm., purple in color.

Calyx: 5 lobes (unequal); outer 2 lobes larger, ovate,7 x 3.5 mm; inner 2 lobes linear, 5.5 x 0.7 mm; median 1 lobe oblong, 5.5 x 2 mm, imbricate, (sub)succulent, punctate, obtuse, acute.

Corolla: White with violet and green bands inside the throat, 0.8 cm across, 5 mm tube; 5 lobes, obscurely 2-lipped, 2+3, (sub) equal, obtuse or emarginate.

Stamens: 4, didynamous; filament pairs I and 2.5 mm anthers oblong, contiguous, 1. 5 mm.

Ovary: Oblong-globose, 2 mm; style slightly deflexed, 5.5 mm; stigma flat capsule, oblong-globose, 5 x 2.5 mm, septicidal or locilicidal, or 4-valved.

Seeds: Oblong; testa striate.

Chemical Constituents: The pharmacological effects of Bacopa monniera are attributed to the presence of a number of biologically active compounds, including alkaloids, saponin and sterols. The compounds responsible for the memory enhancing effects of Bacopa monniera are triterpenoid saponin called "bacosides".

Homoeopathic Preparation:

Preparation: Tincture θ.

Drug Strength: 1/10.
Brahmi fresh pulp containing solids 100gms. And plant moisture approximately 450cc =550gm. Strong alcohol 650cc.To make one thousand cubic centimetres of tincture.

Dilutions: 2x to contain one part tincture, two parts distilled water and 7 parts alcohol; 3x and higher, with dispensing alcohol.

Materials And Methods: 1.Selection Criteria For Prover For Homoeopathic Drug Proving: Human Being. Relatively Healthy. Both Sexes. All ages between 17 – 45 yrs. Sensitive, Expressive. Trust Worthy. Unprejudiced.

2. Informed Consent Of The Provers For The Drug Proving Project: All selected volunteers had signed an informed consent form whereby they agreed to abide by all Rules and regulations for the project of drug proving according to norms given by CCRH

3. Pre – Trial Check Up: History Form with History Writing Explanatory Note: All relatively healthy volunteers chosen were given history form to write history in a language they feel comfortable. They were also given a history writing explanatory note to make them aware about need of writing history accurately. They were asked to submit the written history before the pre – trial interview to the physician.

Pre – Trial Case Taking And Investigation: Received written history was carefully studied in advance by the physician. In the presence of the OBSERVER volunteer provers were interviewed and examined by the respective Consultants according to the Pre-trial Performa and the finding was recorded in the Standardized Case record. All interviewed healthy volunteers were investigated for:

- CBC.
- ESR.
- Urine Analysis.
- Random Blood Sugar.

All the reports were carefully evaluated with help of master prover. Finally, provers with relative normal investigations were selected for Drug Proving Project. Volunteers with abnormal investigations were rejected. Out of screening of 150 people only 30 provers was found to be fulfilling the criteria for homeopathic drug proving project.

Out of 30, total number of selected provers in study group is 17 and control group is 13. In study group of Provers, 9 are boys and 8 are girls.

Selection Of Drug And Placebo: A coded drug has been selected by the prover Supervisor, and administered to the provers. Drug (in 30c and 200c potency) was procured from SBL Pvt. Ltd. India, in 30 ml. sealed phials of each dilution.

Globules (number 30) were medicated with these attenuations and then coding is done by the proving supervisor. Placebo was made up of plain globules (number 30) moistened with plain alcohol (unsuccused).

Selection Of The Provers For Administration Of Coded Drugs: Random arrangement of the all provers was done in the table. Selection of the provers for coded drugs was finally done by master prover.

Study Design: Method for the study has been selected as placebo controlled "Double Blind Method".

Method:

1. Environmental changes and conditions at the time of administration of the coded drug have been noted down to understand its effect on the provers.
2. 4 globules of coded drug, dry on tongue, 4 times a day had been administered on advice day and time.
3. Drug administration had been suspended at the earliest indication of any change in state of health.
4. Drug administration was suspended till the symptoms disappeared followed by a rest period of 7 days.
5. The drug administration will be resumed in a different potency and followed the same procedure as in '3.'
6. There would be a rest period in between for 10 days.
7. Provers have been contacted daily to elicit symptoms and signs in respect of L, S, M, C, Extension, Duration, Intensity of symptoms, etc. and the Symptom Elaboration Performa have been filled up.
8. They noted the time of commencement of change in condition, period of duration in their day book.
9. Regular weekly communication with the proving supervisor will be maintained to inform about the proceedings of the proving and for further guidance.

Follow Up With Provers: Daily personal contact has been made with provers or in between telephonic call has been done to clarify the doubts. Daily checking of the day book has been strictly followed.

Expression of the incomplete experiences in the day book was given direction to express and complete the experiences in their own language.

Precaution has been maintained strictly not to ask direct or leading question, not to probe in collecting their experiences.

Post -Trial Medical Examination: After completion of trial of all potencies, the volunteers were examined by the specialists again called post-trial medical examination. Post trial investigations done after examination, to know if any variation in reports.

Analysis And Synthesis Of The Data Obtained:

1. The data thus obtained would be arranged in day wise sequence to know the evolution of the symptoms and identify any pattern if available.
2. After decoding the proved drug the data would be arranged systematically in the form of their appearance and were separated from those generated by the provers kept on placebo for its purity.
3. The data will also be represented in regional format to understand the generals and the particulars in a better way.
4. Then final image of the drug was made.

Results: During drug proving, the following symptoms were observed, analyzed (compared from control group) and then presented in the systematic manner in table1.

Discussion: This drug is initially used clinically in mother tincture form and not proved completely on the principles laid down in Organon of medicine. I have taken this drug to prove it in 30c & 200c potency. For the study placebo control "Double blind method" is been selected.

Regarding Provers: A total number of 30 provers participated in drug proving, out of which 13 provers were in the controlled group and 17 provers were in study group taken. In the study group of 17 provers, 16 manifested the symptoms after administration of coded drug.

Table 1: Drug Picture Of Bacopa Monniera

Regions	Symptoms
Mind	Lack of concentration, while reading and learning. Drowsiness more in day time. Desire for music and T.V. Aversion to study with forgetfulness. Lethargic feeling. Thoughtful. Restlessness. Loss of anxiety before work. Confusion of mind. Loss of memory. Dizziness. Tearful mood when becomes angry. Aversion to talk and < noise. Wants to live alone. Dullness, morose and tired feeling. Irritable and impulsiveness after contradiction. Depression with crying. Nervous. Time passes slowly. Desire for romance with lascivious thoughts while sleeping.
Head	Pain of sudden nature with gradual progress which is caused due to heat of sun and noise. Headache is of throbbing, lightening and pulsating type with special affinity to frontal, temporal, and parietal region. There is sensation as if weight is put on the head and heaviness in the eyes. Modality: < heat of sun, warm room, evening, empty stomach. > reading, rest, cold, tea Concomitant: nauseating feeling, vertigo and joint pain.
Face	Acne on face red, painful and leaving dark scar
Eye	Redness and watering from eyes more on right side with soreness and burning pain. There is swelling of upper eyelids.
Nose	Profuse watering from nose. Epistaxis. Coryza profuse watery < morning, > afternoon.
Mouth	Dryness in mouth. Ulceration red pinpoint in centre with Painlessness < touch. Dryness and cracks in lips. Deep Central crack in lower lip.
Throat	Swelling of tonsils < swallowing, night. A/f ice-cream, cold. Dryness of throat.
Stomach& Abdomen	Gaseous distension in abdomen at night > flatulence with dull aching pain in morning. Pain in abdomen of lightening, throbbing and blunt character in the regions of epigastrium, right hypochondrium and lumber. < Night, walking, sweet >morning, rest, flatulence. A/F- eating undigested food. There is sudden onset, gradual progress and decline. Loose watery stool with weakness, backache and redness of eyes.
Musculoskeletal	In extremities it covers all the joints and bones. Sensation- throbbing, tingling, lightening, smarting, burning and as if needles were pricking. Modality- < cold, exertion, menses during, afternoon and sitting. > rest, pressure and sleep Onset- sudden Backache with neck pain < lying down
Breast	Smarting pain in right breast.
Generals	
Thirst & Appetite	There is increase thirst. Loss of appetite
Desires	Cold food and drink, ice-cream, juices, salty things and sweet.
Aversion	Spinach, cabbage, bitter gourd and cold bathing
Perspiration	Profuse over neck, axilla, forehead and lower part of eyelids. More in afternoon.
Urine	There is burning with increase frequency of urine. Yellow colour of urine.
Stool	Loose watery stools with weakness in legs, pain in abdomen. Unsatisfactory stools with burning < after stool
Sleep	Excessive sleepiness in day time with drowsiness. Sleep disturbed due to mental exertion, anticipation dreams and dryness of throat. Unrefreshing and restless sleep. Redness of eyes due to sleep.

Dreams	Family, friends, daily routine, frightful, anxious, snakes, failure in exams, sea water, fire and murder
Menstruation	Delayed menstrual cycle with pain in lumber region during sleep. Leucorrhoea profuse, continuous, white, mucus like. There is backache during leucorrhoea.
Sexual	Lascivious thoughts with masturbation causing exhaustion and pain in abdomen.
Fever	High rise of fever with perspiration, body ache and weakness. Sudden with pain in both legs. Typhoid fever.
Other	Excessive weakness and vertigo feeling. Generalized coldness feeling. Vomiting watery, sour < eating followed by cough.

One prover started showing the symptoms but discontinued from the 5th day onwards due to death of close relative. One prover got the fever and shows many symptoms which were diagnosed as a typhoid fever clinically and also with the help of Widal test. This prover manifests symptoms for 20-25 days and also completed day book. Rest of the prover also manifested symptoms of various systems.

Regarding Symptoms And Drug: Drug has showed the affinity to affect each system of the body. Prover showed the symptoms of mind, head, face, nose, mouth, throat, stomach & abdomen, extremities, male & female genitalia and generalities.

In mind it has produced excessive drowsiness, dullness, and tired feeling, and dizziness, lack of concentration, forgetfulness, tearful mood, anger and irritability after contradiction with impulsiveness. It also showed nervousness and depression with crying along with restlessness. Desire to live alone with aversion to talk and < noise.

In head it has prodduced pain of sudden nature with gradual progress which is caused due to heat of sun and noise. Headache is of throbbing and pulsating type with special affinity to frontal, temporal, and parietal region. There is sensation as if weight is put on the head and heaviness in the eyes. In abdomen it has produced pain and distension which is relieved by flatulence. There is < night, walking, and sweet > rest and morning. It has produced sudden onset with gradual progress and decline in pain. Pain is of throbbing, lightening and blunt in character with affinity to all regions. It also produced arthritis and rheumatic character like symptoms. There were few symptoms of eyes, nose, throat and face. In generalities it produced special desire for cold drink and ice-creams, aversion to cabbage, spinach with profuse perspiration and increased thirst. There is burning and yellowness in urine. There is so many stool symptoms. In sleep it has produced excessive sleepiness in day time and sleeplessness in night. It has developed delayed menstruation in one prover. Exhausted feeling after Masturbation found in one prover.

It also produced old symptoms of Coryza, joint pain and abdominal pain. In one prover it has developed pain in breast which was operated for fibro- adenoma long before and induces growth in keloid formation.

All the above symptoms are compared and analyzed with the control group and then drug picture is formed. These symptoms required clinical confirmation.

Conclusion: The scientific process of acquiring the knowledge of the action of the drug on the healthy human beings in the potentized form is done through the drug proving. In present study, we used placebo controlled double blind method.

In the study a total number of 30 provers participated in drug proving, out of which 13 provers were in the controlled group and 17 provers were in study group taken. In the study group of 17 provers, 16 manifested the symptoms after administration of coded drug. Drug has showed the affinity to affect each system of the body. Prover showed the symptoms of mind, head, face, nose, mouth, throat, stomach & abdomen, extremities, male & female genitalia and generalities. Drug has main action on mind, abdomen, extremities, sleep and dreams. Drug has got the capacity of producing deep pathologies. Here the final drug picture of the Brahmi is been presented which required further clinical verification.

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Conflict of interest: None
Funding: None
Cite this Article as: Gupta V, Shah P, Patel G. Proving Of Bacopa Monniera (BRAHMI). Natl J Integr Res Med 2021; Vol.12(4): 56-61